

MATHEMATICAL PROCESS—REFLECTING



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Students will demonstrate that they are reflecting on and monitoring their thinking to help clarify their understanding as they complete an investigation or solve a problem (e.g., by assessing the effectiveness of strategies and processes used, by proposing alternative approaches, by judging the reasonableness of results, and by verifying solutions).

Students become good problem solvers when they regularly and consciously reflect on and monitor their own thought processes.

ROLE OF STUDENTS

Consider data collected

- Search for relevant primary and secondary data.
- Check that data being gathered is appropriate to the inquiry.

Reflect on new skills, concepts and questions to see how they connect to prior knowledge

- Apply and extend knowledge to new situations.
- Examine questions and demonstrate flexibility in choice of strategy based on the nature of the question.
- Verify a solution to a problem by using a different method. Consider the reasonableness of their answer.
- Self-monitor progress while problem solving and revise, as necessary.

SAMPLE QUESTIONS

- Have you thought about...?
- What do you notice about...?
- What patterns do you see?
- Does this problem/answer make sense to you?
- How does this compare to...?
- What could you start with to help you explore the possibilities?
- How can you verify this answer?
- What evidence of your thinking can you share?
- Is this a reasonable answer, given that...?

SAMPLE FEEDBACK

- Explain how the data you collected to inform your thinking connects to the problem.
- I can follow your thinking up to here. How can you help me understand your next ideas?
- Share your explanation with this group and consider their feedback as you revise your work.
- How does this all make sense together?
- What solution could be more suitable?
- How is this result applicable to the problem?